Space Weather Forecast

Issued on Thursday, 06 June 2024 at 00:20 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

---

Space Weather Forecast Headline: Moderate solar activity is likely.

Analysis of Space Weather Activity over past 24 hours
Solar Activity: Moderate with two Moderate-class flares observed from a region in the southwest. This remains the most complex region, with recent reconfiguration of the intermediate spots, and suggestions it is trying to form a new area of magnetic complexity. Notable flares remain possible from this region. Some slight growth has also been observed in the intermediate portion of a region in the northwest, however this currently remains stable. Growth of intermediate spots has also been observed in a region near south centre disc, with this appearing to develop a small area of magnetic complexity. Some flaring and magnetic looping has been observed from the southeast limb, suggesting a potential new region could arrive in the next 24 hours or so. Across the rest of the disc the majority of spots remain simple and stable.
No Earth directed Coronal Mass Ejections (CMEs) are currently thought to have occurred, although an eruption from the northeast is being assessed, however this is thought likely to miss Earth.
Solar Wind / Geomagnetic Activity: Solar winds were slightly enhanced, perhaps attributable to a weak CME glance that was expected, but this is low confidence. Wind speeds were slightly elevated between 400-500 km/s, but eased to background levels after 05/1600 UTC. Interplanetary Magnetic Field (IMF) remained weak, with the north-south component varying weakly. Geomagnetic activity was Quiet to Unsettled (Kp 1-3).
Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) remained at background levels with no solar radiation storms occurring.

Four-Day Space Weather Forecast Summary
Solar Activity: Moderate activity is likely to continue with occasional Moderate-class flares and a slight chance of Strong flares, these most likely from the most complex region in the southeast disc.
Solar Wind / Geomagnetic Activity: No Earth-directed CMEs are currently expected. The next potential enhancement is most likely to be from a coronal hole around north centre disc, which could bring slightly elevated or possibly elevated wind speeds later on Day 3 or perhaps more likely on Day 4 (08-09 Jun), although this is low confidence.
Overall, Quiet geomagnetic activity is expected, but with a chance of a spell of Unsettled to Active with a slight chance of G1/Minor Storms on Days 3-4 from any coronal hole fast wind onset.
Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is likely to persist at background levels, with a slight chance of rising above the S1/Minor Radiation Storm threshold in association with any notable flaring that occurs.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

© Crown Copyright 2024. All Rights Reserved.

Met Office

Space Weather Forecast

Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	1	1	5	5
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	Yes	70	70	70	60
Very Active	R3 to R5 X	No	10	10	10	10

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	10	10	10	10
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

© Crown Copyright 2024. All Rights Reserved.